

### **REMARKS**

In the Office Action, the Examiner noted that claims 1-9, 12 and 14 are pending in the application and that claims 1-9, 12 and 14 stand rejected. The Applicant's claims 1, 3 and 4 are amended by this response to more clearly define the invention of the Applicant.

In view of the following discussion, the Applicant respectfully submits that none of these claims now pending in the application are rendered obvious under the provisions of 35 U.S.C. § 103. Thus, the Applicant respectfully submits that all of these claims are now in allowable form.

### **Rejections**

#### **A. 35 U.S.C. § 103**

The Examiner rejected the Applicant's claims 1-7, 9, 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Shimote et al. (U.S. Patent No. 5,212,677, hereinafter "Shimote") in view of Kagami et al. (U.S. Patent No. 5,212,677, hereinafter "Kagami "). The rejection is respectfully traversed.

The Applicant submits that Shimote and Kagami, alone or in any allowable combination, absolutely fail to teach, suggest or render obvious each and every element of the Applicant's invention as recited in at least the Applicant's claim 1.

More specifically, the Applicant's Claim 1 has been amended by replacing the term "jump" with "scan". Further, claim 1 has been amended by the step of "obtaining information on the type of abnormal region during the scan by evaluating a track crossing signal". This was originally claimed in claim 3. Consequently, this feature has been deleted from claim 3.

The Applicant submits that Shimote (US 5212677) discloses an apparatus which inspects disc-shaped information recording media. The disc shape information medium has one kind of defect as shown in Fig. 1. These are burst defects 52a, 52b covering one or multiple tracks. In the example, five tracks are covered by burst defect 52a and two tracks are covered by burst defect 52b. Shimote discloses only two different kinds of defects, which are physical defects and data defects. In Shimote, the apparatus detects the type of defect and classifies the defects into defect clusters by the defect position in the radial and circumferential directions. Shimote does not disclose nor gives a hint to make a scan over the

abnormal region **perpendicular** to the track direction. This feature has the advantage that a valid track is found soon without scanning the whole invalid tracks. Further, in case a track is mirrored, the track guidance often can not be maintained and the track is lost during readout. Using a method according to the invention, a scan is made perpendicular to the erroneous track until a valid track region is found and guidance on this track can be maintained. Further, Shimote does not disclose obtaining information on the type of abnormal region during the scan by evaluating a track crossing signal, as no track crossing is performed in Shimotes disclosure.

The Applicant further submits that Kagami (US5199017) discloses a method for counting the number of tracks an optical head crosses during a seek operation in an optical disc drive to obtain positional information of the moving optical head. Kagami discloses two different seek operations, a high velocity seek operation (Fig. 4) and a low velocity seek operation (Fig. 15). At the beginning of the seek operation, the number of tracks from the seek start position to the target position is stored in the track counter (column8, lines 36-40). Thus, the number of tracks to be passed is known in advance before moving the optical head over the abnormal region.

The Applicant submits that this knowledge about the abnormal region is not required in the inventive method according to the Applicant's present invention. A change from a normal to an abnormal region is detected according to claim 1. The end of the abnormal region, which should be scanned perpendicular to a track direction, is unknown. The end position of the scan is determined during the scan. Thus, a person skilled in the art would not combine the technical teaching of Shimote and Kagami, because for applying Kagami's teaching, the end of the region to be scanned must be known.

The Applicant submits that even if a person skilled in the art would combine the technical teaching of Kagami and Shimote, Kagami does not disclose that a track crossing signal is evaluated during the scan operating to obtain information on the type of abnormal region. In Fig. 5 Kagami discloses the tracking error signal during the high-velocity seek operation. Kagami mentions Figs. 5(A)-(D) in the section "brief description of the drawings", but no further disclosure is given with regard to Fig. 5. With regard to the other drawings regarding tracking error signals, a person skilled in the art might assume that the tracking error signal is used for track number

counting even if this is not described in detail in Kagami's disclosure. But obtaining information on the type of abnormal region during the scan by evaluating a track crossing signal as taught in the Applicant's Specification and claimed by at least the Applicant's amended claim 1 is not suggested or disclosed in Kiagami. The different types of abnormal regions are even not addresses by Kiagami.

It is thus submitted that neither Shimote nor Kagami, alone or in any allowable combination, disclose or make obvious that information on the type of abnormal region during a scan perpendicular to the track direction can be obtained by evaluating a track crossing signal as taught in the Applicant's Specification and claimed by at least the Applicant's amended claim 1.

Therefore, the Applicant submits that, for at least the reasons recited above, the Applicant's claim 1 is not rendered obvious by Shimote and Kagami, alone or in any allowable combination. As such, the Applicant respectfully submits that the Applicant's claim 1 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

Furthermore, dependent claims 2-7, 9, 12 and 14 depend either directly or indirectly from independent claim 1 and recite additional features therefor. As such and for at least the reasons set forth herein, the Applicant submits that dependent claims 2-7, 9, 12 and 14 are also not rendered obvious by the teachings of Shimote and Kagami, alone or in any allowable combination. Therefore the Applicant submits that dependent claims 2-7, 9, 12 and 14 also fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

The Applicant reserves the right to establish the patentability of each of the claims individually in subsequent prosecution.

#### **B. 35 U.S.C. § 103**

The Examiner rejected the Applicant's claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Shimote and Kagami as applied to claim 1 above and further in view of Mitarai (JP 54048213). The rejection is respectfully traversed.

The Examiner applied Shimote and Kagami to the Applicant's claim 8 as applied for the rejection of the Applicant's claim 1. As described above, Shimote and Kagami, alone or in any allowable combination, absolutely fail to teach, suggest or render obvious at least the Applicant's claim 1. As such, and at least because

Shimote and Kagami fail to teach, suggest or render obvious the Applicant's claim 1, the Applicant further submits that Shimote and Kagami also fail to teach, suggest or render obvious the Applicant's claim 8, which depends directly from the Applicant's claim 1.

Even further, the Applicant submits that the teachings of Mitarai absolutely fail to bridge the substantial gap between the teachings of Shimote and Kagami and the Applicant's invention, at least with respect to the Applicant's claims 1 and 8. That is, the Applicant submits that Mitarai absolutely fails to teach, suggest or render obvious at least a method for analyzing an abnormal region on an optical recording medium including obtaining information on the type of abnormal region during the scan by evaluating a track crossing signal as taught in the Applicant's Specification and claimed by at least the Applicant's claim 1.

In contrast to the invention of the Applicant, Mitarai merely teaches storing the position and the radial extension of an abnormal region on an optical recording medium (i.e., stores the presence or not, quantity, length, position, etc. of the defect areas). However, as previously asserted, the Applicant submits that Mitarai absolutely fails to bridge the substantial gap between the teachings of Shimote and Kagami and the invention of the Applicant.

Therefore, the Applicant submits that for at least the reasons recited above the Applicant's independent claim 1 is not rendered obvious by the teachings of Shimote and Kagami and Mitarai, alone or in any allowable combination, and, as such, fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder. As such and at least because the teachings of Shimote and Kagami and Mitarai, alone or in any allowable combination, fail to render obvious the invention of the Applicant's claim 1, the Applicant further submits that dependent claim 8, which depends directly from the Applicant's claim 1, is also not rendered obvious by the teachings of Shimote and Kagami and Mitarai, alone or in any allowable combination, and, as such, fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

The Applicant reserves the right to establish the patentability of each of the claims individually in subsequent prosecution.

**Conclusion**

Thus the Applicant submits that none of the claims, presently in the application, are rendered obvious under the provisions of 35 U.S.C. § 103. Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion, it is respectfully requested that the Examiner telephone the undersigned.

Please charge any unpaid, additional fees to Deposit Account No. 07-0832.

Respectfully submitted,  
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